

THE COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF PUBLIC UTILITIES

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Electric industry restructuring

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D.P.U. 96-100

**COMMENTS OF THE  
MASSACHUSETTS ENERGY EFFICIENCY COUNCIL**

The Massachusetts Energy Efficiency Council is pleased to submit the following comments regarding the Order and Proposed Rules Governing the Restructuring of the Electric Industry in the Commonwealth of Massachusetts, D.P.U. 96-100 (May 1, 1996) ("Order"). The comments cover four main topics: 1) the development of retail companies; 2) DSM issues; 3) rate design; and 4) performance based regulation. The comments conclude with a request to present oral testimony.

**The Development of Retail Companies**

The Department is to be commended for developing a relatively complete and clear path towards wholesale competition. While many nuances remain, it appears that an approach has been taken that will result in a robust, competitive, and transparent market for wholesale power in the near future.

In the view of the Energy Efficiency Council, however, the Order does not address the creation of retail markets effectively. As written, the Order envisions that power will be sold directly from generators to customers. However, except for the largest customers, who are in effect wholesale customers, there is little reason to expect that bilateral transactions between generators and customers will happen for very long.

Once a transparent market has been created, the only reason for a generator to bypass the market and contract directly with a customer would be to get a **higher** price. The only reason for a consumer to bypass the market would be to get a **lower** price. Under these conditions, there is no basis for a deal, and both generators and customers will get used to buying from and selling to the transparent marketplace.

The concept that bilateral deals will be used to control volatility of electric prices is also transitory. Hedge financial instruments such as contracts for differences are becoming available today from financial markets; there is no need for a contract between generator and consumer to produce one. In short, everything that the Department will accomplish with the Order as written will be accomplished through competition at the wholesale level.

Retail competition is different, and can provide value to consumers in another manner than the transparent wholesale market. Through convenience, services, and retailing efficiency, companies can compete for customers by providing value, even if all retail companies are buying at the same wholesale market. We agree with the vision set forth by the Department that energy efficiency services will be a retailing strategy, and will eventually be provided by the market without subsidies.

However, the Order as written will not create a retail market because it will not create a level playing field for retail companies.

Look at the example of the Boston Edison E-Plan which the Department is considering for 1997. In this system, only the wholesale generation cost is broken out from the non-bypassable distribution charge. The distribution companies would recover the full costs of company management, customer services, information systems, metering and billing systems, investments, etc., through the distribution charge.

A budding, independent retailer would not be able to compete in this environment because he would be competing against a cost structure in the non-bypassable, distribution charge.<sup>1</sup> Even if he had lower overheads and profit margins than the utility, he would still lose because he would be competing against the "generation services" portion of the bill which is only a reflection of the wholesale cost.

No customer would switch to an independent retailer, because he would then have to pay the retailing overheads twice. He would pay them once to the distribution company in the distribution charge and then again to the retail company in its market price.

This is not a level playing field. To be level, a retailer with the same average overheads as a utility, and the same price, should have the same profitability.

To create a level playing field, the generation services portion of the bill must include the average overhead and profitability of the utility's operations, on a revenue-weighted basis. With this starting point, retailers will have a beatable mark. Many will create value for Massachusetts consumers by innovating on business efficiency, pricing, and services. In this environment, the market will indeed promote of energy efficiency.

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<sup>1</sup> Of course, no retailer could compete during the transitional E-Plan phase. The E-Plan does not allow anyone but the monopoly utility to sell to customers and it does not create a true wholesale market where retailers can buy power for resale. However, the E-Plan serves as an example to make the point about the difference between wholesale competition and retail competition. There is also a danger in using the wholesale price as the market price even during the transitional E-Plan; doing so would give customers an unreasonable expectation regarding the true retail market price.

## DSM Issues

### A. Areas of Agreement and Support

The Energy Efficiency Council agrees with and supports many of the elements of the Department's Order regarding DSM issues.

#### 1. *Restructuring should Create New Opportunities for Energy Efficiency*

First, the Efficiency Council shares the Department's hope that, over time, restructuring will create new opportunities for energy efficiency. However, as discussed in more detail below, we do not believe that real time pricing will be the primary source of those new opportunities.

Rather, greater opportunities should come from the opportunity to package energy and energy efficiency services into a single product. This approach may be the core business strategy of a new generation of retail companies. These firms will offer customers a wide new range of products and services that restructuring will make possible for the first time.

This new retail market will not arrive, fully formed, on January 1, 1998. It may not be until the end of the transition period that this market develops and restructuring truly creates new opportunities for energy efficiency. This fact increases the importance of the role of utility DSM programs during the transition period.

#### 2. *Rely on the Market Where Possible*

The Efficiency Council also agrees and supports the Department's objective of relying primarily on the "market" to provide energy efficiency products and services. Utility DSM programs should be used only to supplement the market where there are market barriers to energy efficiency.

It is important to note, however, this has always been the approach to DSM. DSM has never been intended to replace the "market" for energy efficiency. Instead, DSM programs have targeted market failures, and have been designed to provide the minimum incentive necessary to overcome those failures.

As markets have evolved over time, DSM programs have evolved with them. As certain efficiency technologies have gained market acceptance, DSM incentives for those technologies have been reduced and in some cases eliminated.<sup>2</sup>

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<sup>2</sup> The Order states that, as "sectors" of the market become competitive, DSM incentives should be phased out for those sectors. It is important to recognize that the appropriate unit of analysis is a particular technology within a customer sector, not customer sectors as a whole. For example, utility DSM programs have been extraordinarily effective at transforming the markets for particular commercial lighting technologies: T-8 lamps and electronic ballasts. As the markets for these technologies have evolved, utilities have reduced the DSM incentives for these products. However, this does not imply that the commercial sector as a whole is no longer appropriate for DSM incentives. Other technologies used by commercial customers are still appropriate for DSM incentives. Further, as new commercial lighting technologies develop, DSM incentives may be appropriate to move those technologies into the market.

### **3. *Role for DSM both during and after the Transition***

The Efficiency Council also supports the Department's view that there will be a role for DSM programs both during and after the transition period to a restructured industry. Restructuring will remove some barriers to efficiency. However, as the Department points out, other barriers will remain, including lack of capital, lack of information, lack of financing and split incentives. Utility DSM programs will continue to be an effective way to address these barriers.

### ***Importance of Supporting the Energy Efficiency Industry***

The Efficiency Council also appreciates the importance that the Department has placed on supporting the Massachusetts energy efficiency industry. Massachusetts is the home of the nation's leading energy efficiency industry, an industry which employs 15,000 to 20,000 people in the state. While restructuring will ultimately create many opportunities for efficiency companies, the transition period is and will continue to be very difficult.

To date, the uncertainty created by the prospect of restructuring has **reduced** customer investments in energy efficiency. Utility DSM programs are therefore particularly important during the transition period to enable Massachusetts to continue to achieve energy savings and to maintain the efficiency industry so that it can compete in a fully restructured electric industry.

### **5. *Five Year Energy Efficiency Plans***

The Efficiency Council supports the proposal for utilities to file five year energy efficiency plans. This will create stability and an orderly process for DSM program development. However, the rules should clearly state that these plans should be filed **every** five years, not just once. Moreover, given the rapid rate of change in the industry, it might be more appropriate to have interim reviews in years two and four, rather than a single interim review in year three.

The Efficiency Council also supports the Department's recognition of the role of DSM as part of a least cost distribution strategy.

#### **Real Time Pricing**

The Department's May 1, 1996 Order expresses the Department's "expectation" that real time pricing will have a dramatic effect on the market for energy efficiency products and services. While the introduction of real time pricing may have some effect, it will not be a panacea, for the following reasons:

First, limitations in metering technology will limit the effect of real time pricing. Real time pricing will influence customer behavior only where customers can see and react to those prices in real time. However, the vast majority of customers do not have real time meters. Moreover, the restructuring plans proposed to date do not call for a concerted effort to install real time meters.<sup>3</sup> Instead, they proposed billing customers real time prices

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<sup>3</sup> One approach to consider would be to require distribution companies to install advanced metering systems throughout their service territories. This would have the advantage of reducing unit costs as compared to purchasing and installing meters on an individual customer by customer basis. It would also speed the introduction of a number of new technologies and services.

according to average load shapes. Under this approach, real time pricing will have little effect on customer behavior.

Second, it seems unlikely that most customers will pay real time prices regardless of the metering technology available. Given a choice, customers are likely to prefer the stability of guaranteed prices to the volatility of real time prices. The market is likely to respond to this preference by offering customers guaranteed prices. Given this, the scope and effect of real time pricing will be limited.

Third, real time pricing will not address most market barriers to efficiency. The Department's order lists a number of those barriers: lack of information, lack of capital, and split incentives. In sum, these barriers and others are much more significant than the average cost pricing barrier that real time pricing will address, even in those limited instances where customers have real time meters and choose real time pricing.

Fourth, the view that real time pricing will not lead to an explosion in efficiency services is buttressed by the experience in other markets. The experience in the United Kingdom is that restructuring has not lead to an increase in energy efficiency products and services. One would hope that it would have, but it has not.

Finally, even to the extent that real time pricing does have an effect, it may not produce the environmental benefits that we have seen from DSM programs. Real time pricing is likely to encourage load shifting from peak periods to off peak. DSM, on the other hand, has focused on conservation and efficiency, rather than load shifting.

### **C. *Market Driven and Market Transformation Programs***

It is certainly appropriate and helpful in a proceeding such as this for the Department to articulate general goals for DSM. The goals, as we read them, are as follows: 1) to use DSM programs to attempt to eliminate market barriers, rather than simply assuming that market barriers continue; and 2) to achieve DSM savings as cost-effectively as possible.

The Efficiency Council supports both of those goals.

However, it is not helpful, in a proceeding such as this, for the Department to rule on issues of DSM program design. However, that is what the Department has done by suggesting that the evolution of DSM should be away from "retrofit programs" and toward "market driven" and "market transformation programs." DSM program design issues have not been examined in any of the filings or hearings to date. Moreover, given the magnitude of the other issues on the table, it is highly unlikely that DSM program design will be addressed in any of the filings or hearings to follow.

Instead, it would be preferable to address issues of program design in the proceedings on each utility's five year efficiency plan. There, both the Department and the parties could give these issues the attention they require.

Moreover, the preference articulated in the Order for market driven and market transformation programs over retrofit programs is based two commonly held, but mistaken, assumptions.

The first is that market driven programs are necessarily more cost effective than retrofit programs. This is just not the case. Take the Massachusetts Electric 1994 programs as an example. Among the residential programs, the single most cost effective program was Residential Space Heat – a retrofit program – with a benefit/cost ratio of 2.51.<sup>4</sup> This

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<sup>4</sup> Massachusetts Electric Company, 1994 DSM Performance Measurement Report, July

program was far more cost-effective than Energy Crafted Home – a market driven program – which had a benefit cost ratio of 1.31. On the commercial/industrial side, Energy Initiative – a retrofit program – was more cost-effective than Design 2000 – a market driven program. This does not demonstrate that retrofit programs are inherently better than market driven programs; both have their place. However, it does demonstrate that market driven programs are not inherently more cost-effective.

The second mistaken assumption is that “market transformation programs” are inherently different from “retrofit programs.” This also is not the case.

Appropriately defined, market transformation is a program **objective**, not a program **type**. The most effective program type to achieve the market transformation objective will vary from market to market and technology to technology. In some cases, the most effective program *will not* be a retrofit program. In other cases, however, the most effective program *will* be a retrofit program.

In fact, the single most effective utility market transformation effort to date has been commercial lighting **retrofit** programs. These programs have radically transformed the market for commercial lighting technologies, making high efficiency T-8 lamps and electronic ballasts standard practice in many settings. No program of the type commonly thought of as “market transformation programs” has had anything like this success.

#### ***D. Require Measurement and Continue Utility Incentives***

In a footnote to the order, the Department suggests two radical, and ill-advised changes in DSM policy, namely 1) the relaxation of the requirement that DSM programs must produce measured results, and 2) the elimination of utility incentives for exemplary performance. These changes would be contrary to the overall direction of distribution company regulation as articulated elsewhere in the order, and would seriously undermine the effectiveness of DSM programs.

Over the last several years, the Department has repeatedly stated the principle that performance based regulation (PBR) of monopoly functions is superior to cost of service regulation. Indeed, it has required all electric companies to submit PBR plans. DSM is one area of utility activity that has been subject to PBR for years. The Department should not abandon this form of regulation in the DSM area just as it is beginning elsewhere.

Moreover, the performance-based system for DSM regulation that is currently in effect has been an unquestioned success. Energy Efficiency Council members implement DSM programs all across the country. They have direct experience by which to compare DSM programs implemented under a system that involves measured results, performance standards, and performance-based incentives with DSM implemented where measurement standards are looser and incentives do not exist. The difference is between DSM that produces savings and value for ratepayers and DSM that does not.

The Department is certainly correct to suggest that different types of programs will require different measurement and evaluation techniques. However, all programs should be measured to a sufficient standard to ensure cost-effective use of ratepayer funds and to serve as a basis for utility performance incentives.

### ***DSM Budgets should be Maintained, not “Ramped Down”***

DSM budgets should be maintained during the transition period, and not ramped down as suggested in the Order. A budget ramp down would undermine one of the Department’s two primary objectives for DSM – supporting the energy efficiency industry. Also, it would increase the risk of demand-induced price increases. Finally, a budget ramp down is not justified either by the changes to the marketplace or the proposed evolution in DSM program designs.

### ***Supporting the Energy Efficiency Industry***

The Department has identified “support[ing] and encourag[ing] the development of the energy efficiency industry in Massachusetts” as one of the primary objectives of utility DSM programs. Order at p. 65. Program budgets should not be ramped down during the transition because the transition will be an acutely difficult period for the industry for the following reasons:

First, the prospect of restructuring has caused a serious, but temporary decline in the non-DSM energy efficiency business. From the customer’s perspective, the prospect of restructuring has created substantial uncertainty – uncertainty about price options, uncertainty about supply options, etc. In an uncertain environment, customers are much less willing to make the capital investments required for energy efficiency projects. It is much easier to wait a year, or two, or three, or four until all of the restructuring issues are resolved. Once the transition period is complete, the uncertainty will be resolved and projects will again go forward. During the transition, however, non-DSM business will be down, and DSM business will take on increased importance to the efficiency industry.

Indeed, this problem will be compounded by the proposed Basic Service pricing mechanism. For most customers, this mechanism will produce real time prices without real time meters. This will result in increased price volatility, but a lack of information with which to control costs through efficiency investments.

Second, DSM budget levels are down in several other states. This increases the importance of the Massachusetts DSM business for the many Massachusetts-based firms that work across the country.

Third, the opportunities that restructuring will create for efficiency companies are likely to develop late in the transition period. As discussed above, those opportunities will come from the ability to package energy and energy efficiency services in a single retail product offering. This in turn will require the development of a retail segment of the market, something that does not now even exist.

We recognize that restructuring is an enormous undertaking. It is understandable that creating a truly competitive **retail** marketplace is not the Department’s first priority while it is managing the dramatic change toward competitive **wholesale** markets. If retailing is a lower priority, however, DSM must be given increased emphasis.

### ***The Risk of Demand Induced Price Increases***

Look no further than the gas pumps to see the impact of increased demand on free market prices.

It is reasonable to expect that restructuring will result in increased demand for electricity. Restructuring will reduce marginal costs if a greater portion of the electricity

bill become fixed. Restructuring is already creating uncertainty about the financial viability of efficiency investments, since both the future cost of electricity and the rate structure are unknown. Finally, the stated purpose for restructuring is to reduce prices, and markets tend to respond to expected future price reductions with increased demand.

We have just concluded a twenty year period in which energy efficiency has been encouraged by both government policy and market forces. If we enter a period when both government and market forces discourage energy efficiency, what will be the impact on the price customers pay two to five years hence? By looking at other commodities markets, it is reasonable to expect that a tight energy market may have prices 20% to 50% higher than a market in surplus.

A continuing DSM investment will reduce the risk of sharp, demand-induced price increases. It will be a very wise insurance policy indeed.

### ***A DSM Budget Ramp Down is Not Justified by the Changes to the Market and to DSM***

Moreover, the proposed budget ramp down is not justified by either the changes to the market or the evolution of DSM programs.

The Department's order contains four implicit rationales for the ramp down in DSM budgets: First, real time pricing will create many new opportunities for energy efficiency. Second, DSM programs will be used only to provide energy efficiency services that cannot be provided by the market. Third, market driven programs are inherently less expensive than "traditional" DSM programs. Fourth, market transformation programs are inherently less expensive than "traditional" DSM programs. However, none of these rationales stands up to scrutiny. First, as discussed above, real time pricing will not create many new opportunities for efficiency. Few customers will have real time meters, and of those that do, many will not pay real time prices. Second, **today's** DSM programs are used only provide energy efficiency services that cannot be provided by the market. This is not a change.

Third, as discussed above, the evidence is that market driven programs are not less expensive than retrofit programs. Moreover, market driven programs are quite common today. A healthy percentage of today's DSM budgets cannot move to market driven – they are already there. Finally, market transformation programs are not less expensive than traditional programs. The benefit of these programs is that they continue to produce savings after the utility involvement ends; this makes them very cost effective over time. However, there is no reason to believe that market transformation programs require any less of a budget for the time that they are operating.

### **Rate Design**

Rate designs, particularly the design of the stranded cost charge, should continue to rely primarily on volumetric charges (kWh and demand charges) rather than fixed monthly charges.

Moving to a higher fixed charge would reduce the degree to which the customer's bill is affected by his level of energy consumption. It is difficult to imagine a more powerful disincentive for energy efficiency.

Higher fixed charges would affect both utility DSM and energy efficiency investments outside of utility programs. In the context of utility DSM programs, higher fixed charges would necessitate higher utility incentives and lower customer contributions. Customers would be less willing to pay a DSM cost share when the energy savings would have less of an effect on their bill.

Higher fixed charges would also reduce the level of energy efficiency investment outside of utility programs. Here too, customers will simply be less willing to invest in efficiency if a large percentage of their bill is fixed, and thus unaffected by the level of energy consumption.

Increasing the percentage of the bill that is fixed would also increase environmental damage. It would lead to increased electric consumption, an increased need to operate generating plants, and thus an increase in emissions. This could affect not only our air quality, but also the level of emission controls that will be required of the Commonwealth's other businesses if we are to reach our Clean Air Act targets.

Increasing the percentage of the bill that is fixed would also lead to increased bills for the smaller customers within each rate class. It is difficult to imagine a more inequitable approach to stranded cost recovery, or one that is more likely to create a political backlash. Moreover, a stranded cost recovery mechanism that increases bills for smaller customers, while reducing them for larger customers, cannot be said to comply with the Department's principle that such charges must be "non-discriminatory." Electric Industry Restructuring, D.P.U. 95-30, p. 30 (1995).

The argument, raised by some, that recovering sunk costs through fixed charges is more "economically correct" ignores market realities. In competitive industries, businesses recover fixed costs through unit sales, not by imposing fixed monthly charges on their customers. For example, oil companies recover fixed costs through the price they charge per gallon, not by imposing a fixed monthly charge for the right to use the gas station.

### **Performance-based Regulation**

The Department's Order suggests that it will defer most issues relating to performance-based regulation (PBR) until the adjudication of company-specific PBR proposals. Accordingly, the Efficiency Council will not comment extensively on those issues here.

However, it is important to make the general point that PBR schemes should be designed to ensure a level playing field in the competitive marketplace. Even though they will be regulated monopolies, the

distribution companies will be very powerful forces in the market. In order to have a fair market, those companies must be truly neutral.

In particular, distribution companies must not favor supply over demand reductions, or the market will not be a fair one for energy efficiency providers. This will require that the distribution companies' profits not be tied to their volume of sales.

The Department's stated preference for a price cap scheme creates the risk that distribution companies will not be neutral as between supply and demand reductions. Under most price cap schemes, the utility has an incentive to promote sales as long as price is above marginal cost. This issue will require careful examination during the review of specific PBR proposals.

### **Request to Present Oral Testimony**

The Energy Efficiency Council hereby requests the opportunity to present oral testimony by its President, Stephen Cowell, and Vice President, Harvey Michaels.

Respectfully submitted,

Paul W. Gromer  
Massachusetts Energy Efficiency

Council

77 North Washington Street  
Boston, MA 02114  
Tel: (617) 367-6144

Date: May 24, 1996